

REMARKS

The present Amendment amends claims 1-7 and adds new claims 8-11. Therefore, the present application has pending claims 1-11.

Applicants respectfully request the Examiner to contact Applicants' Attorney, the undersigned by telephone so as to discuss the outstanding issues of the present application prior to examination.

Claims 1-7 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claims 1-7 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection with respect to claims 1-7 is overcome and should be withdrawn.

Specifically, amendments were made throughout claims 1-7 to overcome the objections noted by the Examiner in the Office Action.

Claims 1-7 stand rejected under 35 USC §103(a) as being unpatentable over Blumenau (U.S. Patent No. 6,260,120) in view of Voigt (U.S. Patent No. 5,960,451) and further in view of Voigt (U.S. Patent No. 5,537,534). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-7 are not taught or suggested by Blumenau, Voigt '451 or Voigt '534 whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to claims 1-7 to more clearly recite that the present invention is directed to a storage control apparatus and method

wherein the storage control apparatus includes a data I/O control section, which has a plurality of communication ports each of which is connectable with any of a plurality of information processing apparatuses, is communicatively connected to a plurality of physical disk drives for storing data, receives a data I/O request for data stored in the physical disk drives from the information processing apparatuses via the communication ports, and performs data read/write from/to the physical disk drives in accordance with the received data I/O request, a cache memory, and storage resources which are partitioned into a plurality of storage resource groups each having one or more communication ports, storage capacity in said cache memory and one or more physical disk drives.

According to the present invention each storage resource group is assigned to an user and the user is permitted to set a configuration of the one or more communication ports, the storage capacity in the cache memory and the one or more physical disk drives of the storage resource group assigned to the user.

The storage control apparatus according to the present invention further includes a second memory which stores information on management of the storage resources including the storage resource groups each being assigned to a user and having the one or more communication ports, the storage capacity in the cache memory, and the one or more physical disk drives.

Further according to the present invention in response to reception of a transmission request of the information on management of a first storage resource group from a first user via a user interface, the storage control

apparatus transmits an identifier of the one or more communication ports, an identifier of the one or more physical disk drives, and a storage capacity of the cache memory in the first storage resource group assigned to the first user.

The above described features of the present invention now more clearly recited in more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by Blumenau, Voigt '451 or Voigt '534 whether taken individually or in combination with each other as suggested by the Examiner.

As described in the Remarks of the Amendment filed April 24, 2006, said Remarks being incorporated herein by reference, Blumenau teaches a storage controller for controlling access to data storage having a memory and at least one data port for a data network including host computers. Blumenau teaches, for example, in Fig. 1 a cache memory 32 which could correspond to the first memory as recited in the claims and volume access mapping information particularly the table illustrated in Fig. 282 which allegedly stores management type information allegedly corresponding to the information stored in the second memory as recited in the claims.

However, as clearly recognized by the Examiner in the Office Action:

"Blumenau does not disclose expressly a second memory storing information on management of storage resources including a storage capacity of the first memory allocated for each user using the information processing apparatuses, wherein in response to reception of a transmission request of the information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of

the area of the first memory which have been allocated for said user are transmitted to said user interface, and wherein a number of data blocks allocated to each area of the first memory is increased or decreased as needed to provide a set storage capacity of the first memory to each user usable by the user so as not to be affected by use of the first memory by the other users”.

Further to the above deficiencies of Blumenau as noted by the Examiner, there is no teaching or suggestion in Blumenau of other features of the present invention as recited in the claims.

For example, there is no teaching or suggestion in Blumenau of partitioning the storage resources into storage resource groups each being assigned to an user and having one or more communication ports, storage capacity in the cache memory, and one or more physical disk drives and permitting the user to configure each of the elements of the storage resource group as needed according to the present invention as now recited in the claims.

Further, for example, there is no teaching or suggestion in Blumenau of handling requests from the users according to the configurations of the storage resource groups as set by the user according to the present invention as now recited in the claims.

The Examiner upon noting the above described deficiencies of Blumenau attempts to supply the deficiencies noted by him by alleged teachings in Voigt '451 or Voigt '534 of the second memory and the processing performed according to information in the second memory. The Examiner refers to the teaching in Voigt '451, for example, in Fig. 2 thereof of a RAID management system 56 and the teaching in Voigt '534, for example,

in Fig. 1 thereof of a tunable capacity disk array. However, these teachings of Voigt '451 and Voigt '534 do not supply the deficiencies of Blumenau as alleged by the Examiner and further do not supply any of the other features of the present invention as now more clearly recited in the claims as noted above.

Thus, Blumenau, Voigt '451 and Voigt '534 fail to teach or suggest storage resources which are partitioned into a plurality of storage resource groups each having one or more communication ports, storage capacity in said cache memory and one or more physical disk drives, wherein each storage resource group is assigned to an user and the user is permitted to set a configuration of the one or more communication ports, the storage capacity in the cache memory and the one or more physical disk drives of the storage resource group assigned to the user as recited in the claims.

Further, Blumenau, Voigt '451 and Voigt '534 fail to teach or suggest a second memory which stores information on management of the storage resources including the storage resource groups each being assigned to a user and having the one or more communication ports, the storage capacity in the cache memory, and the one or more physical disk drives as recited in the claims.

Still further, Blumenau, Voigt '451 and Voigt '534 fail to teach or suggest that in response to reception of a transmission request of the information on management of a first storage resource group from a first user via a user interface, the storage control apparatus transmits an identifier of the one or more communication ports, an identifier of the one or more physical

disk drives, and a storage capacity of the cache memory in the first storage resource group assigned to the first user as recited in the claims.

Therefore, the combination of Blumenau, Voigt '451 and Voigt '534 fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-7 as being unpatentable over Blumenau in view Voigt '451 and Voigt '534 is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-7.


As noted above the present amendment adds new claims 8-11 which variously depend from claims 1-4. Therefore, the same arguments presented above with respect to claims 1-4 apply as well to new claims 8-11.

In view of the foregoing amendments and remarks, applicants submit that claims 1-11 are in condition for allowance. Accordingly, early allowance of claims 1-11 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.43450X00).

Respectfully submitted,

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